

**REMARKS**

Claims 5 through 12 are pending in this Application, of which claims 8 through 12 stand withdrawn from consideration pursuant to the provisions of 37 C.F.R. § 1.142(b). Accordingly, claims 5 through 7 are active. Claim 5 has been placed in independent form and claims 1 through 4 cancelled. Applicant submits that the present Amendment does not generate any new matter issue.

**Claim 1 was rejected under 35 U.S.C. § 102 for lack of novelty as evidenced by Yoshida et al.**

This rejection is traversed. Indeed, this rejection has been rendered moot by canceling claim 1. Accordingly, withdrawal of the rejection of claim 1 is solicited.

**Claim 2 was rejected under 35 U.S.C. § 103 for obviousness predicated upon Yoshida et al. in view of Wang et al.**

This rejection is traversed. Indeed, this rejection has been rendered moot by canceling claim 2. Accordingly, withdrawal of the rejection of claim 2 is solicited.

**Claim 3 was rejected under 35 U.S.C. § 103 for obviousness predicated upon Yoshida et al. in view of Herbert (presumably intending Storm).**

This rejection is traversed. Indeed, this rejection has been rendered moot by canceling claim 3. Accordingly, withdrawal of the rejection of claim 3 is solicited.

**Claims 4 through 6 were rejected under 35 U.S.C. § 103 for obviousness predicated upon Yoshida et al. in view of Okazaki et al.**

This rejection is traversed. Initially, the rejection of claim 4 has been rendered moot by canceling claim 4. Applicant strenuously traverses the imposed rejection of claims 5 and 6.

In rejecting claim 5 the Examiner asserted that Yoshida et al. disclose the claimed structure except for the circuit board, wherein the MOSFET is packaged so that the respective main surfaces of the semiconductor substrate and the power MOSFET are normal to a circuit board. The Examiner, however, concluded that one having ordinary skill in the art would have been motivated by Okazaki et al. to arrange the MOSFET of Yoshida et al. as claimed. Applicant strenuously disagrees.

The invention defined in independent claim 5 is a power MOSFET packaged device, wherein the power MOSFET is packaged in such a manner that the main surfaces are substantially normal to the circuit board. This claim requirement is significant in that it reduces a loss of the driving power controlled by the power MOSFET.

As one having ordinary skill in the art would have been aware, a power MOSFET controls application of power current driving electrical devices connected in series. Accordingly, the power MOSFET controls a large current. If the power MOSFET employs thin metal wires to connect terminals, it increases the loss of the driving power by a resistance of the thin wires. However, in the claimed invention, it is not necessary to connect terminals by thin wires. Therefore, the power MOSFET of the claimed invention is low in internal resistance.

Applicants submit that the claimed structure is neither disclosed nor suggested by either of the applied references, taken singly or in combination. In this respect Applicants would note

that the Examiner's allegedly teaching reference to Okazaki et al. does **not even relate to a power MOSFET**. Rather, Okazaki et al., disclose an arrangement where a **light-emitting diode (LED)** is situated on a substrate, wherein the LED is packaged in such a manner that the respective main surfaces of the LED are substantially normal to the substrate, to reduce cost and miniaturize the LED. However, Okazaki et al. do **not** disclose a **power MOSFET** that is arranged in the perpendicular arrangement as in the claimed invention. Okazaki et al. do not disclose or suggest that the perpendicular arrangement is effective to reduce a loss of driving power supplied to an electrical device connected in series with the **power MOSFET**.

In order to establish the requisite realistic motivation, it is incumbent upon the Examiner to make clear and particular factual findings as to a specific technological understanding or specific technological principle, and based upon such facts, explain **why** one having ordinary skill in the art would have been realistically motivated to modify particular prior art, in this case the semiconductor device disclosed by Yoshida et al., to arrive at the claimed invention.

*Ecolochem Inc. v. Southern California Edison, Co.*, 227 F.3d 1361, 56 USPQ2d 1065 (Fed. Cir. 2000); *In re Kotzab*, 217 F.3d 1365, 55 USPQ 1313 (Fed. Cir. 2000); *In re Dembiczak*, 175 F.3d 994, 50 USPQ2d 1614 (Fed. Cir. 1999). Merely identifying wherein features of the claimed invention are perceived to reside in disparate references does not establish the requisite realistic motivation. *In re Dembiczak, supra*; *Grain Processing Corp. v. American-Maize Products Co.*, 840 F.2d 902, 5 USPQ2d 1788 (Fed. Cir. 1988).

In applying the above legal tenets to the exigencies of this case, Applicant submits that the Examiner did not establish the requisite realistic motivation to support the asserted obviousness conclusion. This is because the Examiner did not factually establish that one having ordinary skill in the art would have been led by the attempts of Okazaki et al. to **miniaturize an**

LED to go back and modify the **power MOSFET** disclosed by Yoshida et al., motivated by any reasonable expectation of successfully achieving any benefits. **The objectives of the LED device of Okazaki et al. do not bear on the power MOSFET of Yoshida et al.** Certainly none of the applied references discloses or suggests the ability to reduce the loss of driving power controlled by a power MOSFET. Thus, a *prima facie* basis to deny patentability to the claimed invention has not been established.

### **Indicium of Nonobviousness**

It is well settled that the problem addressed and solved by a claimed invention must be given consideration in resolving the ultimate legal conclusion of obviousness under 35 U.S.C. § 103. *Northern Telecom, Inc. v. Datapoint Corp.*, 908 F.2d 931, 15 USPQ2d 1321 (Fed. Cir. 1990); *In re Newell*, 891 F.2d 899, 13 USPQ2d 1248 (Fed. Cir. 1989); *In re Nomiya*, 509 F.2d 566, 184 USPQ 607 (CCPA 1975). The present invention addresses and solves the problem of driving power loss controlled by a power MOSFET. That problem is not even a blip on the radar screens of the applied references. Clearly, the applied references neither disclose nor suggest a way to reduce the driving power controlled by a power MOSFET. Under such circumstances, the problem addressed and solved by the claimed invention merits consideration as a potent indicium of **nonobviousness**.

### **Conclusion**

Based upon the foregoing it should be apparent that a *prima facie* basis to deny patentability to the claimed invention under 35 U.S.C. § 103 has not been established for lack of the requisite factual basis and want of the requisite realistic motivation. Moreover, upon giving

due consideration to the problem addressed and solved by the claimed invention as a potent indicium of nonobviousness, the conclusion appears inescapable that one having ordinary skill in the art would not have found the claimed subject matter as a whole within the meaning of 35 U.S.C. § 103. *Jones v. Hardy*, 727 F.2d 1524, 220 USPQ 1021 (Fed. Cir. 1984).

Applicant, therefore, submits that the imposed rejection of claims 4 through 6 under 35 U.S.C. § 103 for obviousness predicated upon Yoshida et al. in view of Okazaki et al. is not factually or legally viable and, hence, solicit withdrawal thereof.

**Claim 7 was rejected under 35 U.S.C. § 103 for obviousness predicated upon Yoshida et al. in view of Okazaki et al. and Bencuya et al.**

This rejection is traversed. Specifically, claim 7 depends from independent claim 5. Applicant incorporates herein the arguments previously advanced in traversing the imposed rejection of claim 5 under 35 U.S.C. § 103 for obviousness predicated upon Yoshida et al. in view of Okasaki et al. The additional reference to Bencuya et al. does not cure the previous argued deficiencies in the attempted combination of Yoshida et al. and Okasaki et al.

Applicant, therefore, submits that the imposed rejection of claim 7 under 35 U.S.C. § 103 for obviousness predicated upon Yoshida et al. in view of Okazaki et al. and Bencuya et al. is not factually or legally viable and, hence, solicits withdrawal thereof.

Based upon the foregoing it should be apparent that the imposed rejections have been overcome and that all active claims are in condition for immediate allowance. Favorable consideration is, therefore, solicited.

**Application No.: 10/849,035**

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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